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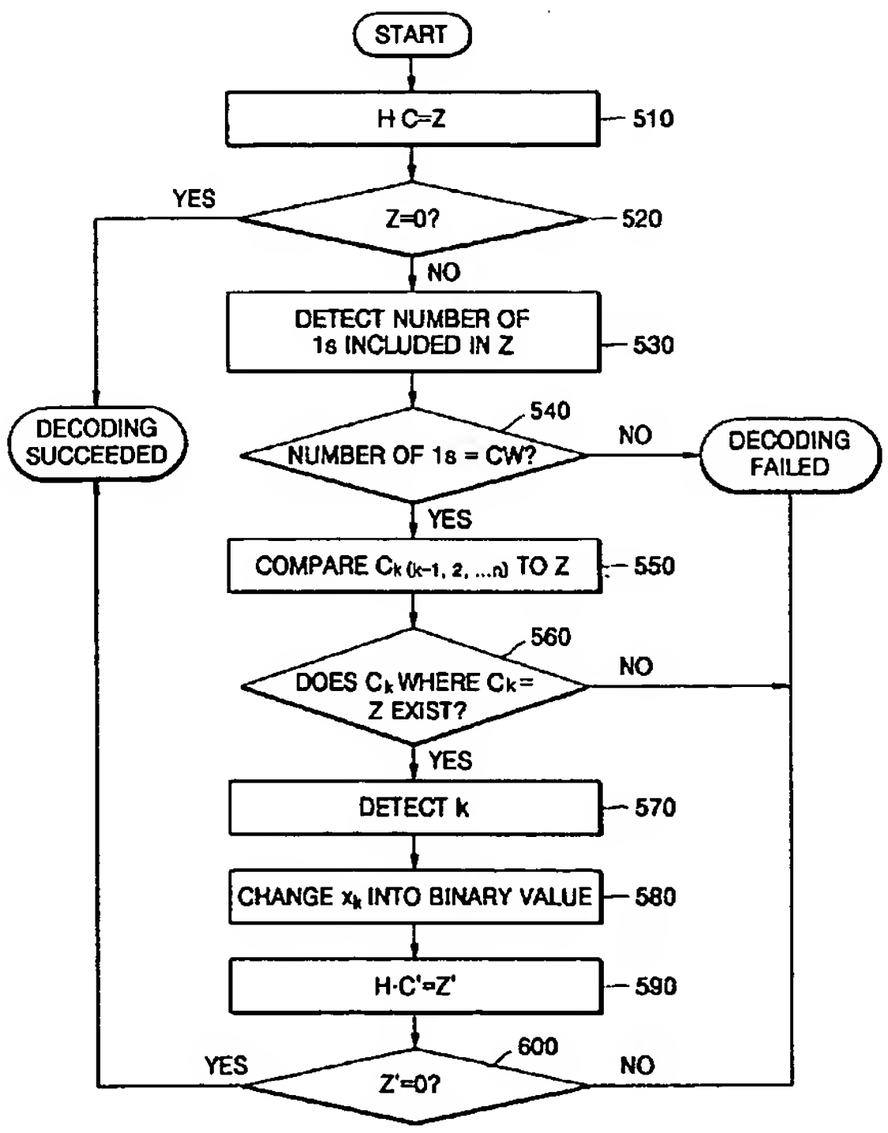
(54) Title: ERROR CORRECTION METHOD AND APPARATUS FOR LOW DENSITY PARITY CHECK



(57) Abstract: The present invention relates to an error correction method and apparatus for determining whether an error exists in a decoded binary signal and correcting the error if the error exists in a decoding apparatus using a low density parity check (LDPC). The method comprises: generating a resultant matrix (m*1) by performing an XOR operation and a modular 2 operation with respect to an LDPC matrix (m*n) and a code word vector (n*1); determining whether a decoding of the code word vector succeeded on the basis of the resultant matrix; and if it is determined that the decoding failed, detecting a code word bit, in which an error is generated, in the code word vector on the basis of correlations of components of the LDPC matrix, code word vector, and resultant matrix. Accordingly, the decoding apparatus using the LDPC can prevent a small number of errors from causing a total block to be determined as a decoding failure and correct an error when it is determined that only one bit error exists.

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